

REMARKS

Claims 1-26 have been cancelled and claims 27-42 have been presented in this amendment. Examination of the added claims in light of the remarks presented below is respectfully requested.

Previous Office Action

In the Office Action, claims 1, 3-7, 9-15, and 17 were rejected under 35 U.S.C. 102(b) as being anticipated by Juliver (U.S. Patent No. 4,756,030), Quandt (U.S. Patent No. 5,439,019), or Richmond (U.S. Patent No. 5,873,518), and Claims 2, 18-23, 25, and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Juliver, Quandt, or Richmond in view of either Hornung et al. (U.S. Patent No. 6,634,048) or Sood et al. (U.S. Patent No. 5,070,565). Claims 8 and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Juliver, Quandt, or Richmond in view of Stayton (U.S. Patent No. 4,854,498). Claim 24 was rejected under 35 U.S.C. 103(a) as being unpatentable over Juliver, Quandt, or Richmond in view of either Hornung or Sood and further in view of Stayton.

In response to the Office Action, Applicants have provided substitute formal drawing sheets. Because the electrical schematic of Fig. 5 required two figures (5A and 5B), paragraphs within the specification have been amended to reflect this change. Acceptance of the formal drawings and the corresponding specification amendments is requested.

The claims 1-26 rejected in the Office Action have been cancelled and new claims 27-42 have been added. Applicants submit that the new claims more

distinctly point out Applicants' invention. These new claims are patentable over the references of record for reasons set forth more fully below.

Applicants' Invention

Applicants' invention is a modular washing machine control. Previous washing machine controls require a number of mechanical and electromechanical components, each of which required separate mounting to the frame of the washing machine. Once mounted to the frame, these components required wires to be arranged in wiring harnesses and routed through different areas of the washing machine for connecting the various components to form the electronic control for the washing machine.

Applicants' invention includes a water temperature selector that is mounted on the same circuit board with a processor and water valve driver. The circuit board may then be covered with a housing and mounted to the frame of a washing machine. The connections between the water temperature selector, processor, and water valve driver do not require wires arranged in a wiring harness. Instead, these components are connected by traces on the circuit board within the housing. This construction simplifies the coupling of the components forming the integrated electronic controller of the washing machine.

Applicants' invention provides this simplified construction without sacrificing the tactile feedback that users have come to associate with the setting of water temperature. This tactile feedback was previously provided by the mechanical switches as they were set to various positions that closed and opened contacts related to predetermined temperature settings. Applicants'

invention provides tactile feedback by providing a series of detents that are carried by a shaft extending through the housing and the control panel of the washing machine. As a user turns a knob mounted on the shaft, the detents engage a detent/position clip within the housing of the control module. The positive rotational stops provided by the detents and the detent/position clip give the user the "feeling" that the temperature for a wash cycle indeed has been "set." Thus, Applicants' invention simplifies the construction of the electronic control for a washing machine while still providing the user the same type of feel as the mechanical switches of the previously known controls.

Basis for Allowing New Claims

New claims 27-42 are not anticipated by Juliver (U.S. Patent No. 4,756,030), Quandt (U.S. Patent No. 5,439,019), or Richmond (U.S. Patent No. 5,873,518) or any other reference of record. None of the references show a processor, water temperature selector, and a water valve driver mounted on a single circuit board. Juliver discloses a keypad that is remotely located from the signal processor to control the water system of a shower. Quandt describes the use of mechanical or actuatable electronic controls that are separate from the controller (Col. 4, lines 6-13, Fig. 2). Richmond provides a water valve driver on the circuit board with the processor, but the water temperature input is separate (Fig. 10). As described in Applicants' specification the components for implementing the water temperature selector on the circuit board are a significant achievement. Even Stayton (U.S. Patent No. 4,854,498), which discloses the use of potentiometers for temperature control, does not disclose all of these

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components on a single circuit board and it certainly does not include the tactile feedback elements incorporated in Applicants' invention.

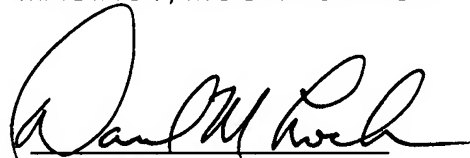
None of the references of record suggest or render obvious Applicants' invention. In fact, none of them address the problems caused by requiring electrical wires for connecting electromechanical components. None of them incorporate a potentiometer on the same circuit board with a processor and water valve driver as set forth in the pending claims. Finally, none of them provide the detents on a shaft coupled to a potentiometer to provide positive rotations for temperature setting actions.

Conclusion

For the reasons set forth above, new claims 27-42 are patentable over the references of record. Allowance of all pending claims is earnestly solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "David M. Lockman", written over a horizontal line.

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